

Glove selection information taken from the CDC website accessed at <http://www.cdc.gov/od/ohs/manual/pprotect.htm#hand%20protection>

The following is a guide to the most common types of protective work gloves and the types of hazards they can guard against:

- a. **Disposable Gloves.** Disposable gloves, usually made of light-weight plastic, can help guard against mild irritants.
- b. **Fabric Gloves.** Made of cotton or fabric blends are generally used to improve grip when handling slippery objects. They also help insulate hands from mild heat or cold.
- c. **Leather Gloves.** These gloves are used to guard against injuries from sparks or scraping against rough surfaces. They are also used in combination with an insulated liner when working with electricity.
- d. **Metal Mesh Gloves.** These gloves are used to protect hands from accidental cuts and scratches. They are used most commonly by persons working with cutting tools or other sharp instruments.
- e. **Aluminized Gloves.** Gloves made of aluminized fabric are designed to insulate hands from intense heat. These gloves are most commonly used by persons working molten materials.
- f. **Chemical Resistance Gloves.** These gloves may be made of rubber, neoprene, polyvinyl alcohol or vinyl, etc. The gloves protect hands from corrosives, oils, and solvents. The following table is provided as a guide to the different types of glove materials and the chemicals they can be used against. When selecting chemical resistance gloves, be sure to consult the manufacturers' recommendations, especially if the gloved hand will be immersed in the chemical.

**Glove Chart**

Type	Advantages	Disadvantages	Use Against
Natural rubber	Low cost, good physical properties, dexterity	Poor vs. oils, greases, organics. Frequently imported; may be poor quality	Bases, alcohols, dilute water solutions; fair vs. aldehydes, ketones.
Natural rubber blends	Low cost, dexterity, better chemical resistance than natural rubber vs. some chemicals	Physical properties frequently inferior to natural rubber	Same as natural rubber
Polyvinyl chloride (PVC)	Low cost, very good physical properties, medium cost, medium chemical resistance	Plasticizers can be stripped; frequently imported may be poor quality	Strong acids and bases, salts, other water solutions, alcohols
Neoprene	Medium cost, medium chemical resistance, medium physical properties	NA	Oxidizing acids, anilines, phenol, glycol ethers
Nitrile	Low cost, excellent physical properties, dexterity	Poor vs. benzene, methylene chloride, trichloroethylene, many ketones	Oils, greases, aliphatic chemicals, xylene, perchloroethylene, trichloroethane; fair vs. toluene
Butyl	Speciality glove, polar organics	Expensive, poor vs. hydrocarbons, chlorinated solvents	Glycol ethers, ketones, esters
Polyvinyl	Specialty glove,	Very expensive, water	Aliphatics, aromatics,

alcohol (PVA)	resists a very broad range of organics, good physical properties	sensitive, poor vs. light alcohols	chlorinated solvents, ketones (except acetone), esters, ethers
Fluoro-elastomer (Viton)™ *	Specialty glove, organic solvents	Extremely expensive, poor physical properties, poor vs. some ketones, esters, amines	Aromatics, chlorinated solvents, also aliphatics and alcohols
Norfoil (Silver Shield)	Excellent chemical resistance	Poor fit, easily punctures, poor grip, stiff	Use for Hazmat work

\*Trademark of DuPont Dow Elastomers

### Glove Type and Chemical Use

*Limited service	VG= Very Good	G= Good	F=Fair	P=Poor (not recommended)	
Chemical	Neoprene	Natural Latex or Rubber	Butyl	Nitrile Latex	
*Acetaldehyde	VG	G	VG	G	
Acetic acid	VG	VG	VG	VG	
*Acetone	G	VG	VG	P	
Ammonium hydroxide	VG	VG	VG	VG	
*Amyl acetate	F	P	F	P	
Aniline	G	F	F	P	
*Benzaldehyde	F	F	G	G	
*Benzene	F	F	F	P	
Butyl acetate	G	F	F	P	
Butyl alcohol	VG	VG	VG	VG	
Carbon disulfide	F	F	F	F	
*Carbon tetrachloride	F	P	P	G	
Castor oil	F	P	F	VG	
*Chlorobenzene	F	P	F	P	
*Chloroform	G	P	P	P	
Chloronaphthalene	F	P	F	F	
Chromic Acid (50%)	F	P	F	F	
Citric acid (10%)	VG	VG	VG	VG	
Cyclohexanol	G	F	G	VG	
*Dibutyl phthalate	G	P	G	G	
Diesel fuel	G	P	P	VG	
Diisobutyl ketone	P	F	G	P	

Dimethylformamide	F	F	G	G
Diethyl phthalate	G	P	F	VG
Dioxane	VG	G	G	G
Epoxy resins, dry	VG	VG	VG	VG
*Ethyl acetate	G	F	G	F
Ethyl alcohol	VG	VG	VG	VG
Ethyl ether	VG	G	VG	G
*Ethylene dichloride	F	P	F	P
Ethylene glycol	VG	VG	VG	VG
Formaldehyde	VG	VG	VG	VG
<b>Chemical</b>	<b>Neoprene</b>	<b>Natural Latex or Rubber</b>	<b>Butyl</b>	<b>Nitrile</b>
Formic acid	VG	VG	VG	VG
Freon 11	G	P	F	G
Freon 12	G	P	F	G
Freon 21	G	P	F	G
Freon 22	G	P	F	G
*Furfural	G	G	G	G
Gasoline, leaded	G	P	F	VG
Gasoline, unleaded	G	P	F	VG
Glycerine	VG	VG	VG	VG
Hexane	F	P	P	G
Hydrochloric acid	VG	G	G	G
Hydrofluoric acid (48%)	VG	G	G	G
Hydrogen peroxide (30%)	G	G	G	G
Hydroquinone	G	G	G	F
Isooctane	F	P	P	VG
Isopropyl alcohol	VG	VG	VG	VG
Kerosene	VG	F	F	VG
Ketones	G	VG	VG	P
Lacquer thinners	G	F	F	P
Lactic acid (85%)	VG	VG	VG	VG
Lauric acid (36%)	VG	F	VG	VG
Lineoleic acid	VG	P	F	G
Linseed oil	VG	P	F	VG
Maleic acid	VG	VG	VG	VG
Methyl alcohol	VG	VG	VG	VG
Methylamine	F	F	G	G
Methyl bromide	G	F	G	F
*Methyl chloride	P	P	P	P

*Methyl ethyl ketone	G	G	VG	P
*Methyl isobutyl ketone	F	F	VG	P
Methyl methacrylate	G	G	VG	F
Monoethanolamine	VG	G	VG	VG
Morpholine	VG	VG	VG	G
<b>Chemical</b>	<b>Neoprene</b>	<b>Natural Latex or Rubber</b>	<b>Butyl</b>	<b>Nitrile</b>
Naphthalene	G	F	F	G
Naphthas, aliphatic	VG	F	F	VG
Naphthas, aromatic	G	P	P	G
*Nitric acid	G	F	F	F
Nitromethane (95.5%)	F	P	F	F
Nitropropane (95.5%)	F	P	F	F
Octyl alcohol	VG	VG	VG	VG
Oleic acid	VG	F	G	VG
Oxalic acid	VG	VG	VG	VG
Palmitic acid	VG	VG	VG	VG
Perchloric acid (60%)	VG	F	G	G
Perchloroethylene	F	P	P	G
Petroleum distillates (naphtha)	G	P	P	VG
Phenol	VG	F	G	F
Phosphoric acid	VG	G	VG	VG
Potassium hydroxide	VG	VG	VG	VG
Propyl acetate	G	F	G	F
Propyl alcohol	VG	VG	VG	VG
Propyl alcohol (iso)	VG	VG	VG	VG
Sodium hydroxide	VG	VG	VG	VG
Styrene	P	P	P	F
Stryene (100%)	P	P	P	F
Sulfuric acid	G	G	G	G
Tannic acid (65%)	VG	VG	VG	VG
Tetrahydrofuran	P	F	F	F
*Toluene	F	P	P	F
Toluene diisocyanate	F	G	G	F
*Trichloroethylene	F	F	P	G
Triethanolamine	VG	G	G	VG
Tung oil	VG	P	F	VG
Turpentine	G	F	F	VG
*Xylene	P	P	P	F
<b>*Limited service</b>	<b>VG= Very Good</b>	<b>G= Good</b>	<b>F=Fair</b>	<b>P=Poor (not recommended)</b>